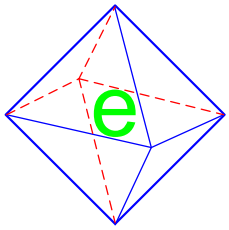


Crystal Clear Vision for Precise Level Measurement

Ecrystal

CASM-01 Instruction Manual of Site Host

V1.04 2015_03_27

Respected users:

Thank you for purchasing our product. Please read the product guide manual carefully before using the product and keep it safe. If any problems encountered in the operation and use, please contact us:

Shanghai Office :

Tel : 86-10-6224 2380

Fax: +86-21-5220 9750

Add: 16F,Lijing Sunshine , 19Wuning , Shanghai .

US Contact:

TEL： 001-626-789-8520

FAX： 0010-626-789－8149

E-mail： Ecrystal.sales@gmail.com

Add： 260 S. Los Robles #303, Pasadena, CA 91101

Precautions:

1. The products that mentioned in this document are only allowed to be operated by the qualified ones who meet the requirements. Its operation must comply with the directions, especially the attention and warning points of this manual. Qualified personnel with relevant training and experience may perceive the risk of the product and avoid possible dangers. Our company does not take responsibility for consequences arising from not respecting the operation manual .

2. We have made an inspection of the contents of this publication as well as the consistence between the hardware and software, nevertheless, including the exist of deviation. Thus, we can not guarantee that the content is exactly the same as hardware and software. Data in this publication is tested according to the provisions and any necessary corrections are included in the subsequent edition.

3. Ecrystal is a registered trademark of our company. The other symbols in this document may be some other trademarks. It would infringe their ownership rights if the third-party use these trademarks for their own purposes.

Confirm Package Contents

No.	Item	Quantity
1	Quick Installation Guide	1
2	Warranty Card	1
3	Site Host	1
4	433 Aerial Roots	4
5	Housing Auxiliary Fixing Part	2
6	M4 Screw	4

1 Products

CAS-01 site host, as a part of the CAS level gauge system, coordinated with "CAS server", functions as controlling more than one level meter intelligent networking, real-time material level data acquisition and recording, parameter status and warning messages monitoring, flexibly reporting real-time and historical data to the server and some other functions can be achieved. Customers and after-sale service personnel can make use of these features to enable the material level gauge system be secure, reliable and stable in operation. The main properties are as follows:

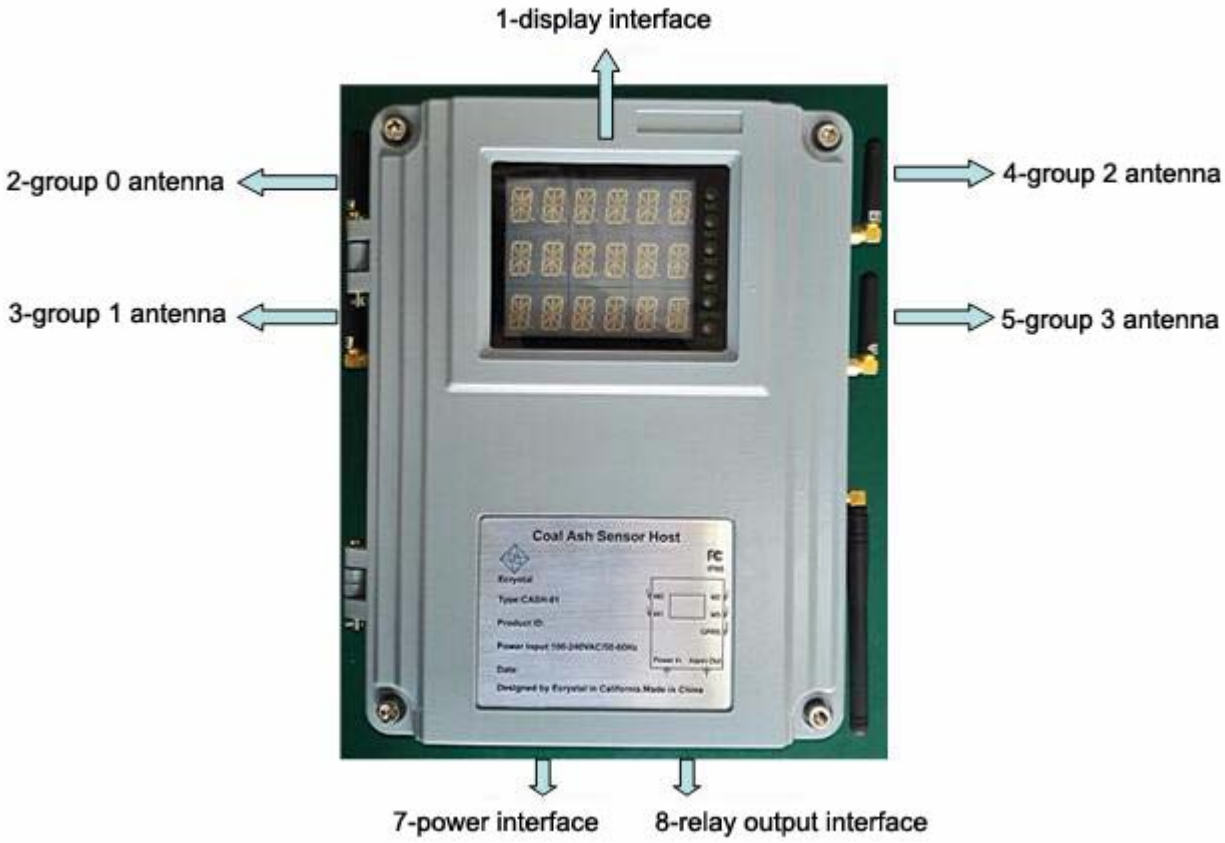
- The intelligent networking of 99 level meters can be achieved by the sever through a host;
- All on-site intelligent wireless node can relay wireless signals, making wireless networking level meter no dead ends;
- The host can make real-time data collection and recording via the level meter on the net;
- The host can upload the collected real-time data and historical data to the server for analysis;
- The host itself can achieve up to two-month historical data storage;
- Each host can set up four radio group, making data monitoring more efficient;
- Using 18 highlight, long-life LED digital displays to make it easy for the personnel on-site to get the host state;
- Having buzzer alarm and relay fault output;
- IP66 protection rating to enable the host to adapt to harsh environment.

2 Specification

Type	*CASM-01*
Net Weight	About 2.5Kg
Size	30cm length 18.8cm width 9.3cm height
Protection Class	IP66
Housing Material	ADC 12
Power Input	AC100V-240V 50-60Hz
Consumption	Less than 15W
Cable Connector	M16 Waterproof cable lock
Relative Humidity	Less than 85%
Temperature Operating Range	-40 ~ 85℃
Alarm Output	Relay、LED Lights、Buzzer
Relay Output Contact Capacity	1A/30VDC 1A/250VAC
Live Wireless Network Carriers	433MHz
Wireless Transmission Distance	Sight Distance 1000 Meters

3 Host Description

A host contains four groups, each of which can be set independently of the band. One group can have 99 level meters at most, and all four groups' total number of level meters does not exceed 99 units. Host uses the main group as a unit to monitor the level meter.



3-1 CASM-01 shell structure diagram

3.1 Shell Structure Description

- Display Interface

Display interface includes information of a host state of 4 interface displays and six red and green LED indicator. Under normal circumstances, information of four interface is in two seconds for the interval cycle.

1. The display interface is as follows:

Name	Display Interface	Display Interface Description
Interface 1		1、 ECRYSTAL is the Logo of the Company； 2、 CASM01 represents host model;

Interface 2		1、 Figures on the first line indicate the production serial number of the host, as well as its mailing address； 2、 If the second line displays M0 - OFF, then groups 0 is in stand-alone status; 3、 Displaying M0-xx (xx represents 2 digits) indicates the group 0 is in the host network status, and the band of work is xx. If it displays M0-ERR, it indicates Groups 0 failure; 4、 The third line shows the state of group 1, as for the specific meaning please refer to the introduction of group 0 in this table .
Interface 3		1、 The first line indicates the state of group 2, as for the specific meaning please refer to the introduction of group 0 in this table; 2、 The second line indicates the state of group 3, as for the specific meaning please refer to the introduction of group 0 in this table; 3、 GP-ON on the third line represents the host and server connectivity. If the display is GP-OFF it indicates that the host is not connected to the server.
Interface 4		1、 T-022 on the first line indicates that the ambient temperature of the host is 22 ℃; 2、 PE-ON on the second line indicates that it is grounded normally. It means poor grounding if the display is PE-OFF; 3、 RE-ON on the third line indicates that the system is with no alarm. RE-OFF means the host has the alarm currently. "Failure of wireless Group 0,1,2,3 communication", "poor grounding", "Host power failure" could all cause an alarm.

2. LED light introduction

Close to the right side of the display, from top to bottom 6 LED lights altogether. As shown below:

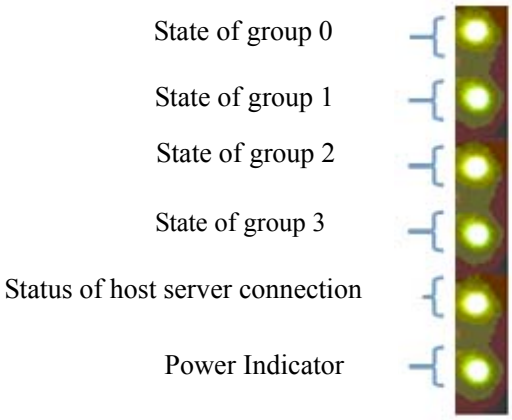


Figure 3-2 Host LED indicator

Wherein from the first light to the fourth light respectively indicate the status of wireless communications from group 0 to group 3, green LED display shows the correspondence group chat normal while red shows the communication breakdown.
The fifth LED light indicates the status of connection between the host and the server, green indicates normal connection with the server while off indicates the connection failure.
The sixth LED light indicates whether the host is powered on, green light means power-on.

- Groups antenna

  Wireless communication can be made by the host through the four antennas and level meters as shown in Figure 3-1..
- Power Interface

  Power input port.
- Relay Interface

  Fault relay output ports.

3.2 Terminals Description

power supply terminal

Figure 3-3 Power Interface

The power connector as shown in Figure 3-3 can be found in the lower left corner of the host, in which L is the line of fire, N is the zero line and G is the ground wire.

Output relay

Figure 3-4 Relay Interface

The host relay interfaces shown in Figure 3-4 can be found in the lower right corner inside the host, in which NC is relay normally closed terminal, NO is relay normally open terminal. When a wireless module 0-3 or ground fault alarm or power failure, NC closes, NO disconnect; when no alarm, NC OFF, NO closes.

3.3 Buzzer

When the wireless group 0,1,2,3 are in communication failure or ground fault, the buzzer will tweet at the the frequency of 1s.

4 Installation and Fix

Installation Preparation

Tools and parts needed are as follows for CAS host installation:

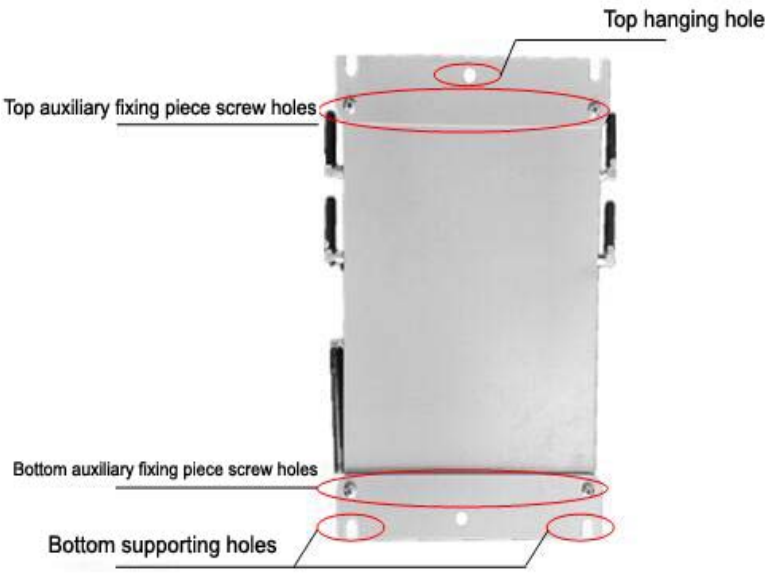
1、	M4*8 Slotted screws	× 4
2、	Auxiliary mounting piece	× 2
3	M10*8 Hex screws and supporting washer	× 3
3、	M6 Hexagon screwdriver	× 1
4、	Flathead screwdriver Φ4.0mm	× 1
5	Adjustable wrench Maximum opening 18mm	× 1

Host size

Front view

Bottom View

Installation steps



1. As the left picture above shows, fix the two auxiliary tabs on the back of the host with 4 M4 * 8 screws;
2. Hang the host in place with an external hexagonal M8 * 8 screw according to the right picture shown above ;
3. Using two sets of M8 * 8 hex screws, fix the bottom of the host according to the right figure to complete the fix.

Wiring Warning

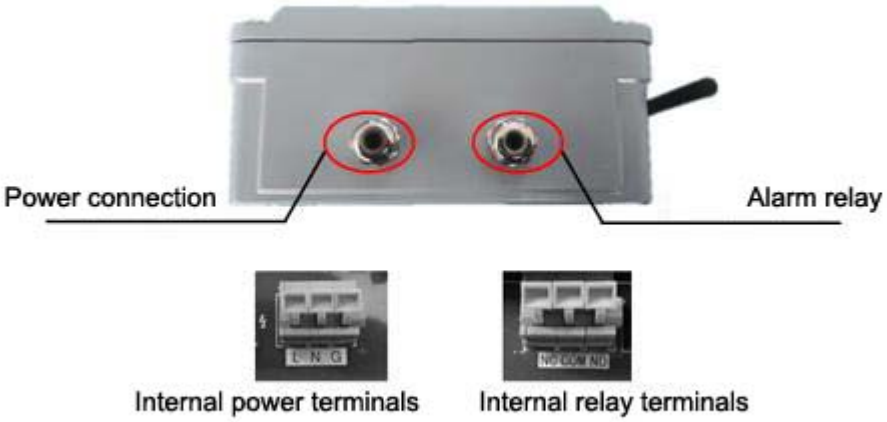
Warning: The output signal lines and power lines should be avoided being placed in the same slot.

Warning: Before wiring, cut off power supply to prevent electric shock.

Warning: After installation is completed, make sure that the sensor chassis is well grounded.

Note: Personnel with professional qualifications is required for installation while wiring.

Wiring Procedure



1. Using the M6 hex screwdriver to loosen the four-side screws in front of the host, and then open the front cover;

2. Install anti-clockwise to loosen the two waterproof connectors at the bottom of the host;

3.Make the power cord be connected into the host from the waterproof connector as the left graph shown above, so that the relay signal line could be connected into the host from the right waterproof connector;

4. Knob down the corresponding switch of the line L on the internal power terminals with a flathead screwdriver, at the meantime insert the power cord into the terminal L, release the switch to complete the L line installation. Complete the N, G line installation in the same manner;
5. Complete the installation of the alarm relay terminal line with the method of step 3;
6. Press clockwise to tighten the gland after confirming the wring inside the host be connected correctly and solid;
7. Close the front cover, use an inner M6 hexagon screwdriver to tighten the four-side screws to complete wiring.

5 Host Application

Data collection, monitoring level gauge and some other acts of the host is conduct through the server. Customers and after-sales staff can log in server pages to use various host functions flexibly. The server login screen is as follows:

Figure 4-1 Server login screen

Server visit website: http: //123.232.127.38: 8080 /
As for operating method of the sever, please refer to "Application Manual of CAS Level Gauge System Server"

6 Trouble clearing

Malfunction	Resolution
Buzzer warning Relay alarming	Check whether the four groups antenna is fixed well, or well grounded
Power-on screen is not bright	Check the power indicator LED light is green for the normal display, if the power indicator LED does not light, check the power cord if the wiring is good.

Appendix (internal)

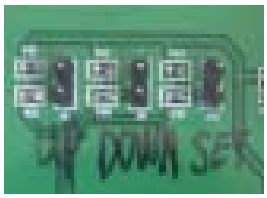
Appendix 1　Burn Serial Number

Each host has a unique serial number, after the host programming is completed, the production stage remote control can set a host of unique serial number, as follows:

1. Power on the host which fist completed burn and record, and wait for the host interface displays into the following interface;

1-1 on the attached power display interface

2. Open the computer cover,



1-2 SET short circuit attached feet

3. Check the LED display interface. If the interface appears the word SET, it means the host entering the burning state of serial number, which indicates that the serial number can be burned;

4. Open the remote control in the production phase, as shown below, and touch, double-click the figure “00000” to enter the serial number attached programming interface as shown in Figure 1-4

Annex 1-3 serial number of the production phase on the remote control programming interface

5. Input the host address on the attached 1-4 interface, press the “Enter” button complete serial number burned;

Annex 1-4 serial number input interface

6. After serial number burning is completed, check whether the serial number burned is correct on the LED interface;

7. Serial number burning completed.

Annex 2 The host program upgrading interface

When the server upgrades the host program, the host will be displayed as figure 2-1 shown. Host will automatically reboot after the upgrading and run a new version of the program.

Figure 2-1 Server upgrade interface attached

FCC Statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.